

43. (New) The system of claim 42 wherein said sheet of diffusion-controlling matrix has a thickness of about 0.5 to about 0.8 mm.

44. (New) The system of claim 27 wherein said biological sensor either emits light or quenches light emitted by another component of the diffusion-controlling matrix, and said means for detecting the spatial distribution of signals produced by said biological sensor measures the spatial distribution of light emanating from said diffusion-controlling matrix.

---

Remarks / Arguments

As a result of this amendment, claims 27 – 44 are pending in the application. Claims 1-11 and 25-26 have been cancelled. New claims 27 – 44 have been filed. No new matter has been added.

In the official action, claims 1-11, 25 and 26 were rejected under §112, first and second paragraphs, on numerous grounds. Rather than attempt to address each of these rejections in the present set of claims, applicants have cancelled claims 1-11, 25, and 26 in favor of new claims 27- 44, which are written in a more traditional US form. It is deemed that §112 issues have been addressed in these new claims.

In the official action, claims 1-6 and 8 were rejected as anticipated by the disclosure of Sachs '409.

Sachs discloses cells immobilized in agarose and held between microporous membranes in microflow chambers of a "cytosensor" machine, and the solution containing test material is pumped past the cells. The detector of the machine is a pH sensor, which measures the rate at which the cells acidify or alkalinize the medium. It does not appear that this machine employs a "sheet of diffusion-controlling matrix", or that the instrument is capable of "detecting the spatial distribution of signal(s) produced when (the substance being tested for) is in contact with at least

one spatially-discrete area of said sheet of diffusion-controlling matrix.” Accordingly, Sachs ‘409 does not anticipate the presently-claimed invention.

In the official action, claims 1, 3-8, 25, and 26 were also rejected as being anticipated by the disclosure of Zlokarnik ‘762. Zlokarnik discloses methods for reducing undesirable light emission (background fluorescence) from samples undergoing analysis by membrane compartment assays such as cell-based assays, by adding a photon reducing agent to the samples (the solutions bathing the membrane compartments).

It does not appear that the membrane compartments of the reference (which correspond to the sensors of the present invention) are ever contained in a sheet of diffusion-controlling matrix, as presently claimed, or that the reference methods bring the material to be tested for into contact with spatially-discrete areas of a sheet of diffusion-controlling matrix, or that the reference system has means for detecting the spatial distribution of signal(s) produced when a substance being tested for is in contact with at least one spatially-discrete area of the sheet of diffusion-controlling matrix as presently claimed. In the reference, the material being tested for appears to be in a solution which bathes the “membrane compartments”. Accordingly, this reference does not anticipate the presently-claimed invention.

In the official action, claims 9-11 were rejected under §103 as being obvious over the disclosure of Sachs ‘409. Original claim 9 dealt with the concentration of sensors in the layer containing the sensors, and original claims 10 and 11 dealt with the optical density of the layer and the thickness of the layer, respectively. The examiner characterized these variables as “result effective variables”, states that Sachs has shown such variables may be altered to achieve optimum results, and that it has long been settled to be no more than routine experimentation for one of ordinary skill in the art to discover an optimum value of a result effective variable, and concludes that it would have been obvious for one of ordinary skill in the art to discover the optimum workable ranges of the methods disclosed by Sachs et al. by normal optimization procedures known in the art.

The subject matter of original claims 9-11 is now found in new claims 38 – 43. Applicants maintain that as Sachs discloses a very different system than that presently claimed, it

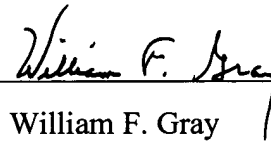
cannot suggest anything about the proper concentrations, thicknesses, etc. for the presently-claimed system. The applicants are not interested in optimizing the Sachs system. Furthermore, these are dependent claims which will be allowable if and when the independent claim to which they refer is found to be allowable.

Respectfully submitted,

Reg. No. 31018

Phone: (203) 812-2712

Date: 30 Sept 02

A handwritten signature in cursive script, reading "William F. Gray", is written over a horizontal line.

William F. Gray

Bayer Corporation

400 Morgan Lane

West Haven, CT 06516-4175